



# NCEI User Engagement Strategy

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NOAA's National Centers for Environmental Information

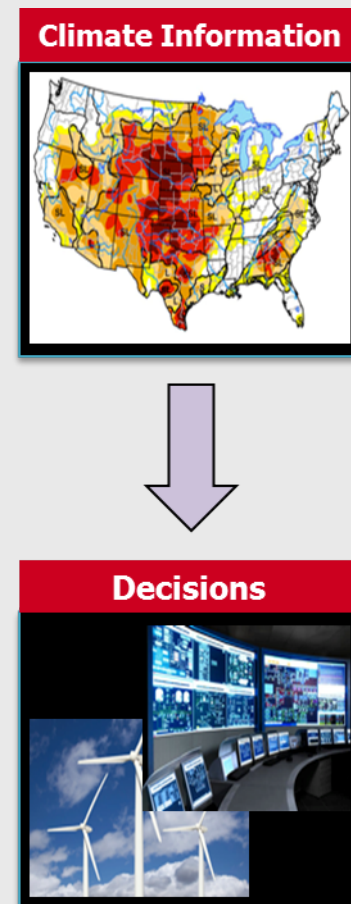
August 6, 2015

National Centers for Environmental Information | Center for Weather and Climate



# Discussion Topics

- Past Successes in the Engagement Business
- What we learned when we listened
- A Tale of 2 CDRs
- Engagement Strategy: Shaping the Future
  - A new approach to sectors
  - An integrated process approach
  - Programmatic activities
- Moving Forward



# Old Way of Doing Business

- Program-specific customer engagement
  - Led to many useful, single purpose customer-driven products
  - Knowledge of the customer locked away in a few heads
- Established sector-based engagement
- Expanded region-based engagement
- Lots of opportunities to share if user knowledge is shared.

NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
Formerly the National Climatic Data Center (NCDC)... [more about NCEI](#)

Home Climate Information Data Access Customer Support Contact About

Home > Data Access > Quick Links

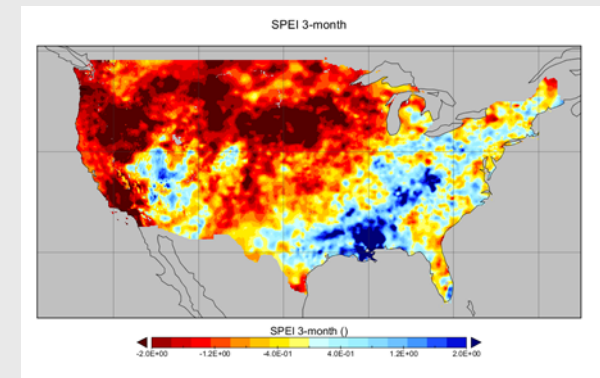
Quick Links

Land-Based Station  
Satellite  
Radar  
Model  
Weather Balloon  
Marine / Ocean  
Paleoclimatology  
Severe Weather  
Blended & Global - Land + Ocean

Quick Links

These links provide quick access to many of NCEI's climate and weather datasets, products, and various web pages and resources.

1. U.S. Local Climatological Data
2. Global Historical Climatology Network-Daily (GHCN-D)
3. Integrated Surface Data, Hourly, Global
4. U.S. Climate Normals Products
5. Storm Data Publication/Database
6. Climatological Data Publication
7. Hourly Precipitation Data Publication/Database
8. U.S. Annual Climatological Summary
9. Weather Maps/Charts
10. Comparative Climatic Data (CCD)
11. Climatic Wind Data Publication
12. Climate Maps of the United States
13. CD-ROMs/DVDs
14. Climate Indices
15. Global Summary of the Day (GSOD)
16. U.S. Historical Climatology Network (USHCN)
17. U.S. Climate Reference Network (USCRN)
18. Regional Climate Centers/National Weather Service Products
19. Various Webpage Resources
20. Analyses/Climate Monitoring
21. Model Data
22. Radar Data



# Overview of Recent Engagement Activities

***NCEI conducted a market analysis and a follow on deep dive assessment of the energy sector that resulted in the following recommendations:***

- Product Improvements
- Web & Access Improvements
- Communications Improvements
- Proactive User Engagement
- Engage Sectors More Effectively
- Better Understanding of Our Users
- Better Understanding of NCEI Processes
- Entrain Engagement into Center Business



These engagement activities map to our product starts, changes, and improvements...and help identify the value of the information





# What Are Our Opportunities?

***There is a value and need for environmental data and information in the market. We are actively improving our response to customer needs...***

## ***Issues from customers***

- Data access
- Latency
- File format
- Sub-setting
- Updates
- Different Resolution

## ***Improving our capabilities***

- In process of redesigning CDR webpage to be more user friendly and informative
- Activating registration so that we can update users
- Develop a customer database to more actively respond (track & report) to user questions/needs
- New product development – daily gridded temperature and precipitation

# Value of Climate Data - Illustrative

XXXXXXXXXXXXXXXXXXXX reduces flood damage by using data from NCEI: **\$240 million annually (averaged) in avoided damage**

XXX uses NCEI data as a primary input when structuring insurance for a hydroelectric installation: **\$450 million dollars for a single insurance product**

Utility operators could save \$15 million annually and improve grid reliability using day-ahead trading with a program to improve solar irradiance forecasts: **\$15 million annually**



## San Diego Gas and Electric (SDG&E)

- In 2007, dry conditions and Santa Ana winds damaged power distribution systems and fueled massive fires that burned 13 % of SDG&E's service territory.
- Utility was found liable and had to pay \$2 billion in hundreds of settlement cases.
- Using historical climate data, they created an early warning and operational maintenance system that has **saved the utility billions of dollars in avoided liability.**



# What We Are Hearing: Key Business Findings from Recent Engagement Activities

## Business needs to know

- What government resources/data are available off the shelf?
  - How does the private sector become aware of what is available?
  - How does the private sector know which resources are good and reliable?
- What are good adaptation examples from the government?
- Where do we learn and understand more about climate projections?
  - Downscaling seems to be an issue
- Is there a list of climate adaptation scenarios that private sector can use for planning purposes?

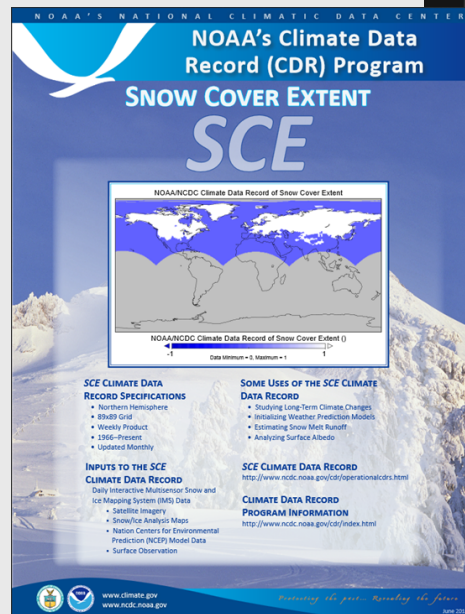
## Government needs to

- Improve awareness
- Move past the C-suite and into operations
- Develop/provide case studies and examples of adaptation successes
- Include adaptation financing
- Develop collaborative partnerships
- Provide more than a SEC Guideline
- Develop a business case

## Sensitivities

- Meeting stakeholders and business leaders on their turf and as equals
- Decision support approaches and/or tools which facilitate integration of climate adaptation into a business strategic plan, *i.e.*, integration into business investment, operations, maintenance, *etc.* – much harder than it appears!

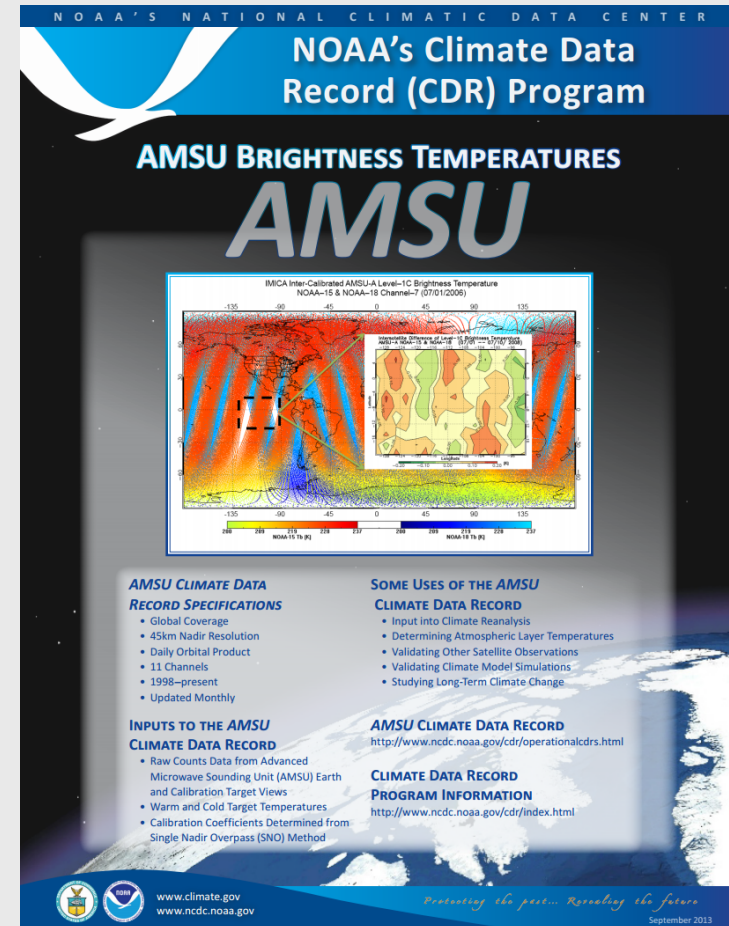
- Fundamental CDRs
- Use inspired CDRs
- Different audiences
- Different applications
- Different ROI





# Brightness Temperature Story

- **Scientific Need:**
  - Input into Climate Reanalysis
  - Determine Atmospheric Layer Temperatures
  - Validating Other Satellite Observations
  - Validating Climate model Simulations
  - Studying Long-Term Climate Change
- **Decision-Maker Needs:**
  - Critical Contributions to Scientific and Technical Assessments, Modeling, ...



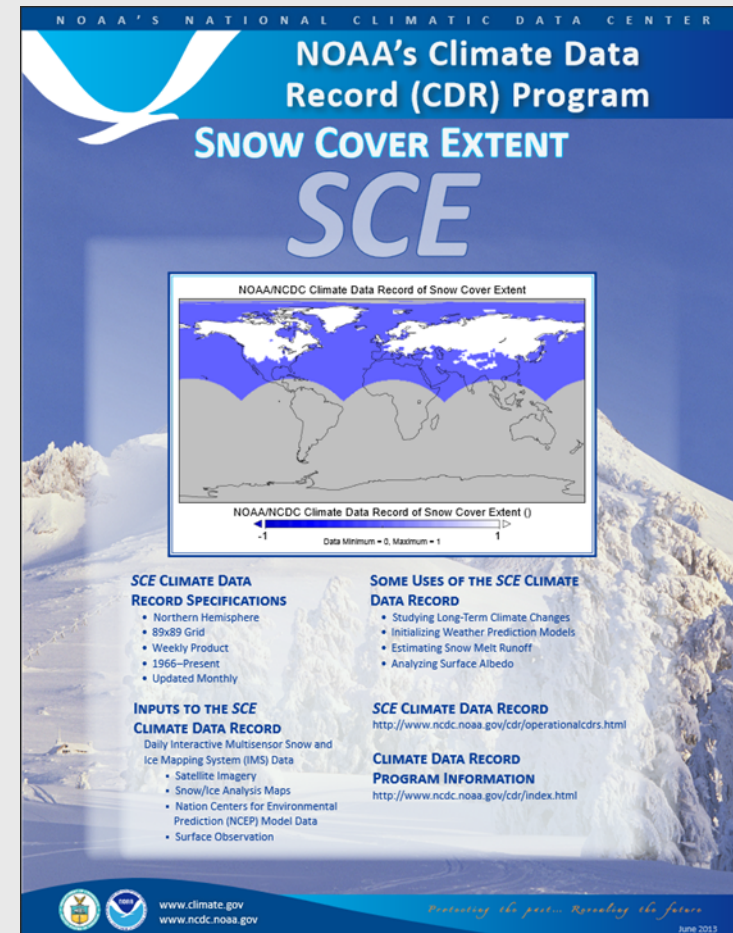
# Snow Cover Extent Story

- **Scientific Need:**

- Modeling & Monitoring Climate Variability
- Defense, Shipping & Policy Maker Guidance
- Fisheries, Natural Resources, & Native Communities Management
- Impacts to Cryosphere, Ocean, and Atmosphere
- Informing Academia, Media & General Public

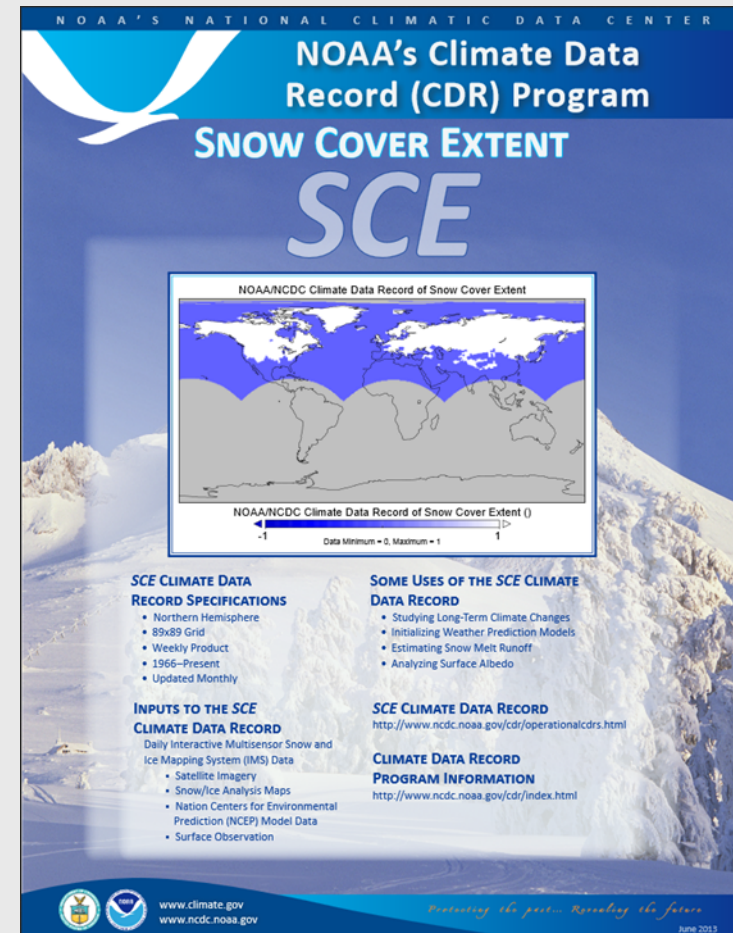
- **Decision-Maker Needs:**

- Arctic Shipping Companies (Routes)
- Wildlife Management Agencies
- Risk Management / Market Guidance
- Snow and Ice Management
- Financial / Energy / Trading Markets
- Asset Management
- Insurance Industry
- Weather Analytics



# Use Inspired Potential

- Is there the possibility of improving future products?
  - Finding users and incorporating feedback into all stages from design to implementation (and improvement)
  - Document user requirements
  - Determine common strategies for filling requirements
  - Leverage assets across government and the Centers
  - Document impacts





# NCEI Engagement: Broad Goals

***NCEI is investing in improving our capacity to engage with our users/ customers across all programs and activities...***

- **Document requirements across programs**
  - Collect customer requirements
- **Enable capabilities in customer analytics**
  - Understand and analyze customer information, needs, requirements, recommendations and successes...
- **Understand our customers better through targeted regional- and sector-based interaction**
- **Strategically prioritize activities to address customer requirements**
- **Inform NCEI science, research and data priorities**



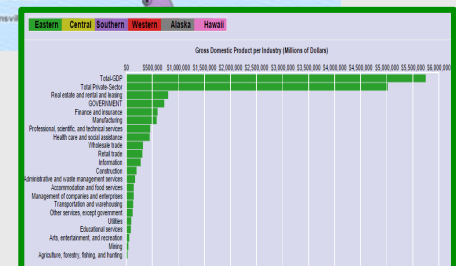
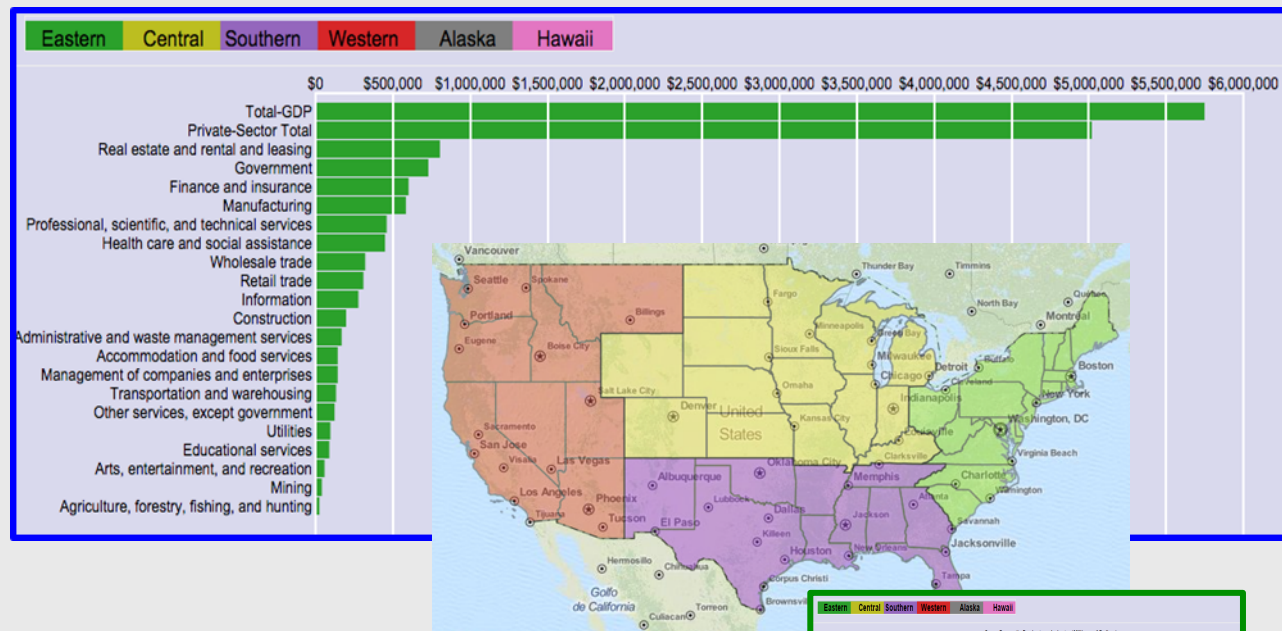
# Engaging Sector-Based Users



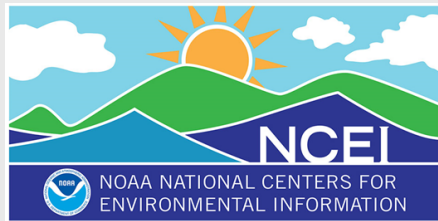
## Census Bureau Sectors\*

- Agriculture, Forestry, Fishing, Hunting
- Mining, Quarrying, and Oil and Gas
- Utilities
- Construction
- Manufacturing
- Wholesale Trade
- Retail Trade
- Transportation and Warehousing
- Finance and Insurance
- Real Estate and Rental and Lease
- Professional, Science, Tech Services
- Management of Company/Enterprise
- Waste Management & Remediation
- Educational Service
- Health Care and Social Assistance
- Arts, Entertainment, and Recreation
- Accommodation and Food Services
- Other Services (except Public Admin)
- Public Administration

\*North American Industry Classification System



# Cultivating Our Capabilities



Center for Weather and  
Climate: *Information  
Services*

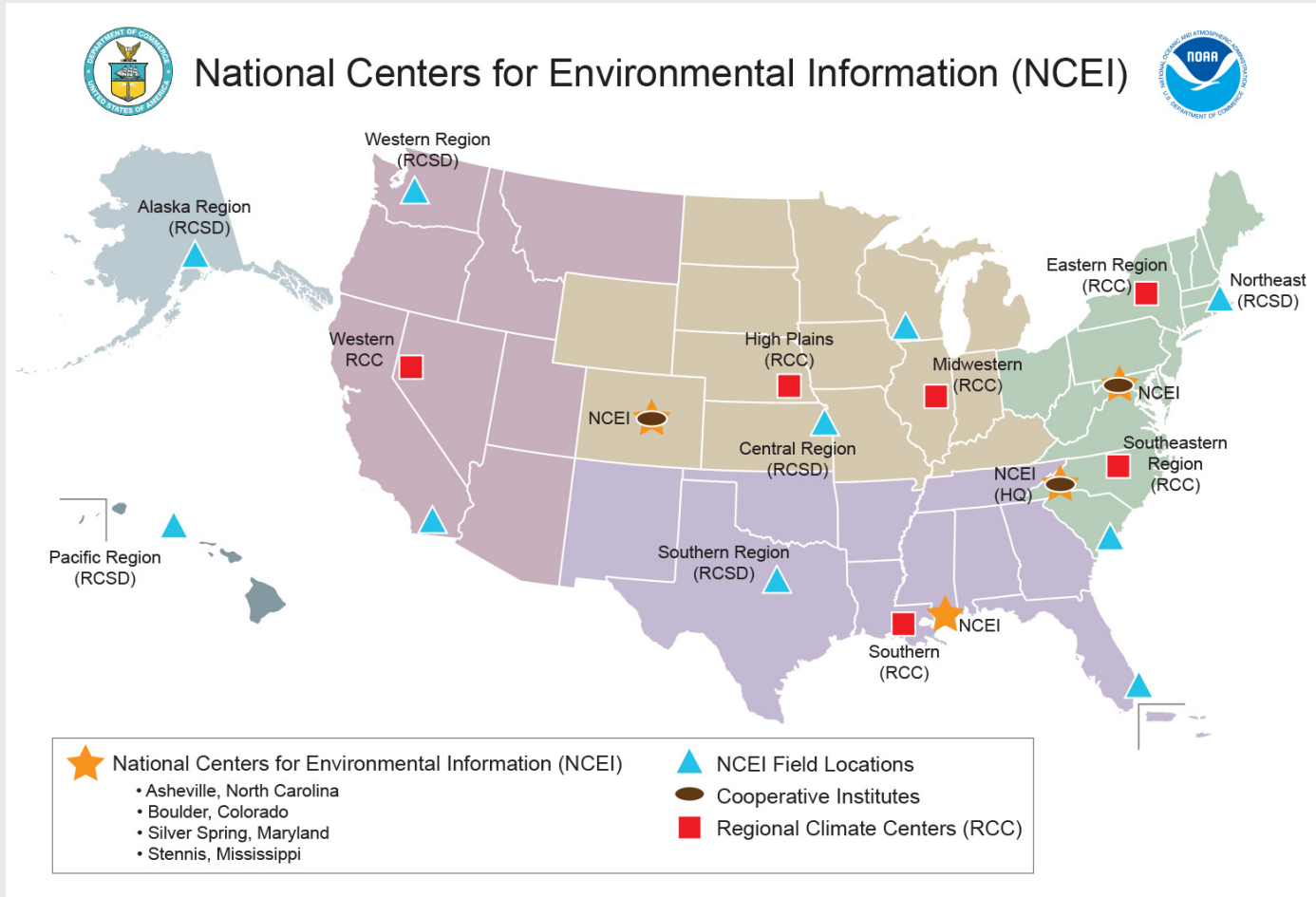
## Regional Climate Services

- **Regional Climate Services Directors**
- **Regional Climate Centers**
- **State Climatologists**

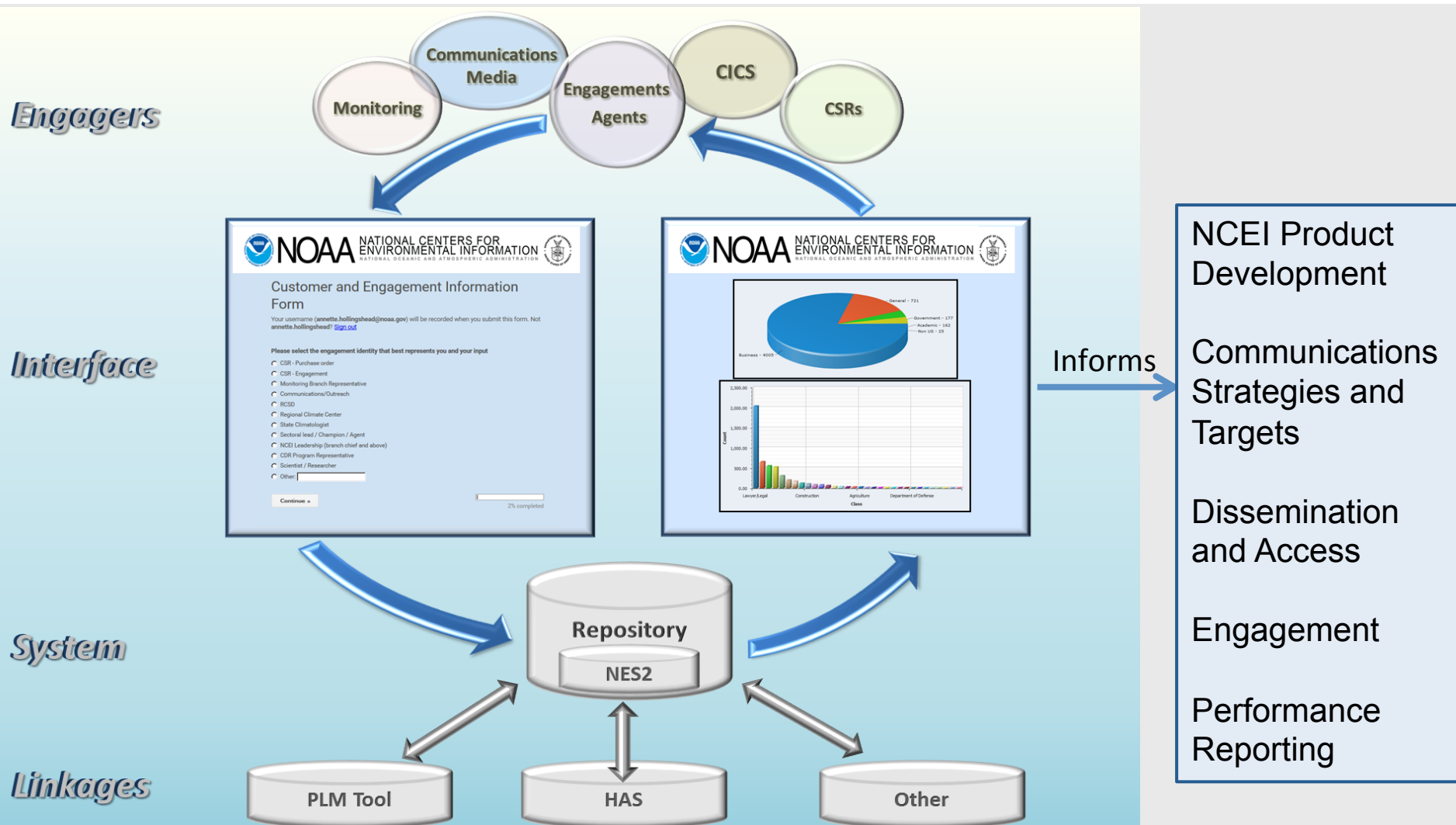
Subject Matter Experts

Customer  
Engagement

NCEI Info Services,  
Comms, & Outreach



# A Vision for Customer Engagement: Responsive to Intentional





# Moving Forward

- Engaging users earlier as part of the process to inform science and product priority
- Capturing and focusing on use case stories and examples to portray the value of CDRs (and other environmental observations)
- Continue to build engagement with users of data and information
- Determine sector champions and prioritize sector activities





# NCEI CWC Information Services

## For Additional Information:

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- Annette Hollingshead                      Technical Lead, Engagement, GST                      [annette.hollingshead@noaa.gov](mailto:annette.hollingshead@noaa.gov)
- Tamara Houston                      Regional Climate Services, Program Manager                      [tamara.houston@noaa.gov](mailto:tamara.houston@noaa.gov)

## Additional References:

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- NCEI: [www.ncei.noaa.gov](http://www.ncei.noaa.gov)
- CICS-NC home page: <http://cicsnc.org>



# Back Up Slides

# Total Solar Irradiance Story

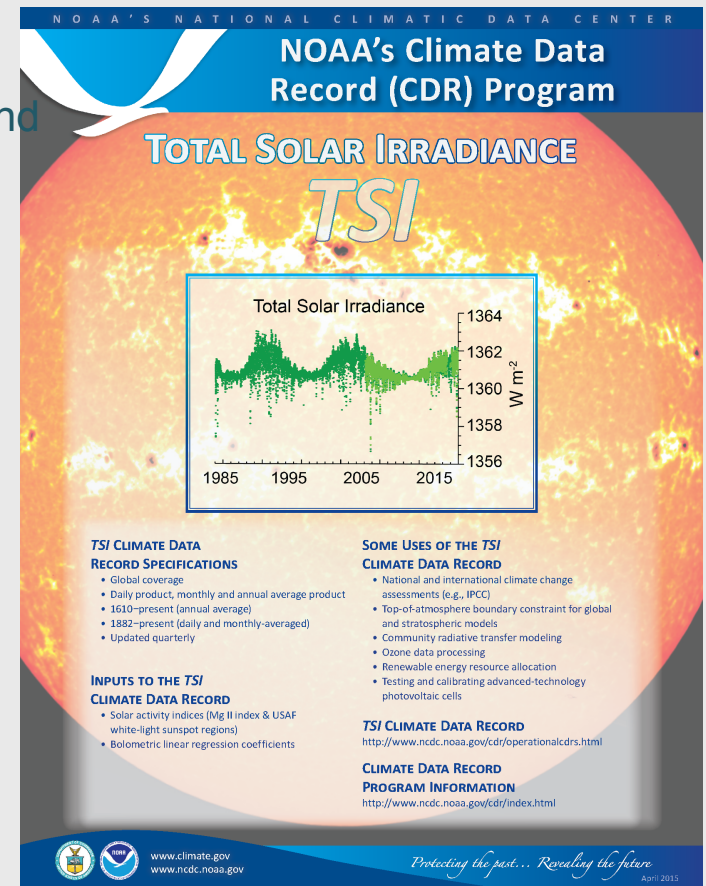
- **Scientific Need:**

- National and international climate change assessments (e.g., IPCC)
- Top-of-atmosphere boundary constraint for global and stratospheric models
- Community Radiative Transfer Modeling
- Ozone Data Processing
- Renewable Energy Resource Allocation
- Testing & Calibrating Advanced-Technology Photovoltaic Cells

Potential to be a greater benefit for users with added radiation product → societal use and meaning

- **Potential User Needs:**

- Solar Energy Industry
- Climate Change Modeling
- Temperature Forecasts
- Solar Energy Material Testing



# A Vision for Customer Engagement: Responsive to Intentional

